

## MAINTENANCE

Maintenance of roads, bridges, etc. (as well as construction under \$7,500.00 in cost) is in charge of District Supervisors George Swain in District No. 2 and A. J. Turnbull in District No. 3, with District Engineers Gillis and Matteson cooperating.

Total maintenance costs for 1939, as shown in the following tables, were \$688,608.85. The accounting figures of \$699,193.23 are higher because their records include jobs carried over from 1938 and 1939 projects not yet completed. Also in disagreement is the total of the auditor's office of \$700,459.54 because of a necessary lapse of time between the two offices.

Based on the auditor's figures, which record the actual warrants drawn for the year 1939 against maintenance account, 53 per cent of the county road fund has been used for this purpose, which is still 5 per cent under the average for the past ten years.

### C. R. P. PROJECTS COMPLETED

Number	NAME OF PROJECT	Nature	District No. 2	District No. 3
SM 4	Peck Bridge No. 3121	Engineering	\$ 32.00	\$
8	Auburn-Maple Valley Road	Engineering	17.50	
35	Sheffield St.—Kirkland	Graveling		693.95
CSM21	Bridge No. 3147—Repairs	Bridge	4,503.01	
23	Snoqualmie Bridge No. 1834-A	Bridge		4,003.16
24	W. S. Young Road et al.	Raylig	4,953.04	
25	Slusser Rd. et al.	Lt. Bit. No. 1	1,988.14	
26	C. E. Kinney Rd. et al.	Lt. Bit. No. 1	6,777.30	
27	W. River Rd. et al.	Lt. Bit. No. 1	6,561.91	
CASM 7	E. Hollywood Road	Lt. Bit. No. 1		854.15
8	Hobert-Landsburg Road	Lt. Bit. No. 1		858.76
9	W. River Road	Lt. Bit. No. 1		451.59
10	Green River Gorge—Kummer Cutoff	Lt. Bit. No. 1	987.96	
TOTAL			\$25,820.86	\$ 6,861.61
BOTH DISTRICTS			\$32,682.47	

### CASM-500 PROJECTS COMPLETED (Projects up to \$500.00 in Cost)

NATURE OF WORK	DISTRICT NO. 2		DISTRICT NO. 3		BOTH DISTRICTS	
	Mileage	Amount	Mileage	Amount	Mileage	Amount
Light Bituminous Stage 1	16.22	\$ 11,730.86	37.37	\$ 9,420.45	53.59	\$ 21,151.31
Light Bituminous, Stage 2				115.02		115.02
Raylig	61.50	23,049.80	8.73	1,954.40	20.23	25,004.26
Road Repairs	2.56	3,941.24			2.56	3,941.24
Regraveling	26.66	13,342.75	18.89	10,167.56	45.55	23,510.31
Bridges		3,475.55		1,914.51		1,914.51
Drainage		1,120.51		543.76		1,664.27
Traffic and Safety				1,914.51		1,914.51
Guard Rail		295.10		1,728.09		2,023.19
Miscellaneous		534.78		75.60		610.38
TOTALS	106.94	\$ 57,490.59	64.99	\$ 35,347.41	171.93	\$ 92,838.00

### REGULAR MAINTENANCE—COST PER MILE

Representing district expenditures in the daily course of maintaining all roads and bridges, figures are also given to show the average cost per mile for such maintenance.

Type of Roads	District No. 2	District No. 3	Both Districts	Cost per Mile
Concrete	\$ 9,385.60	\$ 14,178.14	\$ 23,563.74	\$106.00
Brick	\$ 9,385.60	\$ 14,178.14	\$ 23,563.74	101.00
Heavy Bituminous	10,659.07	3,978.35	14,637.42	173.00
Light Bituminous	41,042.49	67,799.98	108,842.47	222.00
Gravel (1st and 2nd Class)	227,783.35	146,484.19	374,267.54	290.00
Earth	2,501.01	253.63	2,754.64	
Bridges	17,624.75	18,016.93	35,641.68	
TOTALS	\$312,018.63	\$251,069.75	\$563,088.38	Av. \$235.00



## STATIONARY AND MOBILE EQUIPMENT

As of June 30th, 1939, the total value of mobile equipment fell to about 63 per cent of the 1938 inventory, while stationary equipment rose some 4 per cent. Of the road machinery, approximately 42 per cent is in good condition, 27 per cent fair, 23 per cent poor and 8 per cent ready to be junked. Generally the inventory is in about the same state as last year, the drop in value being roughly 2 per cent greater, and the equipment in good and fair condition being slightly under that of 1938.

### INVENTORY OF STATIONARY EQUIPMENT

(Buildings Not Included)

LOCATION	DIST.	VALUES	
		1938	1939
Gravel Pits—Bow Lake .....	2	\$ 6,024.36	\$ 4,171.19
Titus .....	2	5,072.00	3,387.00
Calhoun .....	2	6,785.00	5,204.74
Renton .....	2	2,595.00	2,523.98
Redondo .....	2	4,380.00	3,958.52
Krain .....	2	3,745.00	1,395.00
Fall City Quarry .....	3	.....	115.00
Sheds—Bothell .....	3	60.00	67.50
Hobart .....	3	60.00	57.00
Issaquah .....	3	.....	85.00
North Bend .....	3	.....	88.00
Tolt (includes Duvall) .....	3	60.00	136.00
Woodinville .....	3	.....	435.50
Bellevue .....	3	.....	404.50
Coalfield .....	3	.....	90.50
Fall City .....	3	.....	652.00
Bunkers—Cedar Falls (formerly Juanita) .....	3	7,920.00	6,950.00
Redmond .....	3	9,991.00	7,161.25
Woodinville .....	3	2,005.00	1,820.00
Bellevue .....	3	1,810.00	1,507.50
Coalfield .....	3	3,885.00	3,172.50
Tolt .....	3	2,670.00	2,122.50
Fall City .....	3	570.00	565.00
Issaquah .....	3	1,690.00	1,610.00
North Bend and Haller Lake (Dismantled) .....	3	2,880.00	.....
Yards—Kent .....	2	2,900.00	5,213.01
Redmond .....	3	4,393.00	2,477.00
Haller Lake .....	3	337.00	642.50
*Shops—Kent .....	2	3,280.00	7,006.56
Vashon Island .....	2	.....	593.62
Redmond .....	3	3,267.50	3,715.50
Haller Lake .....	3	1,433.00	941.00
Asphalt Plant—Titus .....	2	.....	7,500.00
Redmond .....	3	.....	2,770.00
Office—Kent .....	2	4,311.88	5,721.58
Redmond .....	3	3,546.34	4,368.89
TOTALS—South District No. 2 .....		\$ 39,093.24	\$ 46,675.20
North District No. 3 .....		45,577.84	41,954.64
BOTH DISTRICTS .....		\$ 85,671.08	\$ 88,629.84

\*Blacksmith, machine, paint shops.

	PURCHASES		DISPOSALS	
	1938	1939	1938	1939
South District No. 2 .....	\$ 2,895.88	\$ 17,993.64	\$ 18.00	\$ 249.84
North District No. 3 .....	2,806.34	1,275.54	35.00	.....
TOTAL BOTH DISTRICTS .....	\$ 5,702.22	\$ 19,269.18	\$ 53.00	\$ 249.84

# INVENTORY OF MOBILE EQUIPMENT

For Fiscal Year Ending June 30, 1939

SOUTH DISTRICT NO. 2					NORTH DISTRICT NO. 3					BOTH DISTRICTS									
TYPE OF EQUIPMENT	Condition of Equipment					1939 Value	Condition of Equipment				1939 Values	Condition of Equipment				Values			
	Good	Fair	Poor	Junk	Total		Good	Fair	Poor	Junk		Total	Good	Fair	Poor	Junk	Total	1938	1939
Trucks	18	26	11	1	56	\$ 26,962.87	25	19	24	2	70	\$ 37,770.28	43	45	35	3	126	\$104,695.14	\$ 64,733.15
Trailers	3	1	2	...	6	1,472.00	9	...	...	...	9	4,507.54	12	1	2	...	15	8,753.00	5,979.54
Business Cars	8	2	5	...	15	3,515.00	3	...	...	...	3	1,522.00	11	2	5	...	18	8,352.11	5,037.00
Tractors	4	12	3	...	19	4,728.00	12	2	...	...	14	16,379.00	16	14	3	...	33	43,453.00	21,107.00
Power Graders	6	4	7	...	17	10,157.00	17	2	2	...	21	26,348.00	23	6	5	...	38	53,176.00	36,505.00
Power Mowers	3	2	...	...	5	106.00	2	3	...	...	5	2,137.00	5	5	...	...	10	165.95	2,243.00
Loaders	2	...	...	...	2	4,991.00	...	...	...	...	...	...	2	...	...	...	2	2,196.00	4,991.00
Shovels	3	...	...	1	4	6,750.00	2	2	1	...	5	5,095.00	5	2	1	1	9	23,481.00	11,845.00
Rollers	1	1	...	...	2	480.00	1	...	...	...	1	75.00	2	1	...	...	3	1,185.00	555.00
Pull Graders	...	4	7	2	13	...	2	1	4	5	12	1,678.00	2	5	11	7	25	3,375.00	1,678.00
Rippers	...	...	3	1	4	...	...	...	...	...	...	...	...	...	3	1	4	...	...
Pile Drivers	2	1	...	...	3	309.00	1	...	1	...	2	208.00	3	1	1	...	5	1,550.00	517.00
Pumps	3	...	...	...	3	99.00	1	1	...	...	2	133.00	4	1	...	...	5	717.00	232.00
Fresnos	...	...	...	8	8	...	...	...	...	...	...	...	...	...	...	8	8	...	...
Scrapers	2	...	...	3	5	300.00	...	...	...	...	...	...	2	...	...	3	5	553.41	300.00
Land Levelers	...	...	...	...	...	...	...	...	...	6	6	40.00	...	...	...	6	6	...	40.00
Dragline Buckets	1	2	2	...	5	1,579.00	...	...	...	...	...	...	1	2	2	...	5	1,815.00	1,579.00
Boats	...	...	...	...	...	...	1	...	...	...	1	253.00	1	...	...	...	1	389.00	253.00
Air Compressors	...	...	...	...	...	...	2	...	...	...	2	1,317.00	2	...	...	...	2	2,150.00	1,317.00
Misc. Equipment	1	1	1	...	3	1,783.37	...	...	...	...	...	...	1	1	1	...	3	171.00	1,783.37
TOTALS	57	56	41	16	170	\$ 63,232.24	78	30	32	13	153	\$ 97,462.82	135	86	73	29	323	\$256,177.61	\$160,695.06
Purchases—1939	...	...	...	...	...	\$ 11,100.95	...	...	...	...	...	\$ 10,412.21	...	...	...	...	...	\$ 53,323.89	\$ 21,513.16
Disposals—1939	...	...	...	...	...	408.07	...	...	...	...	...	825.00	...	...	...	...	...	7,317.42	1,233.07

## BRIDGE DEPARTMENT

Under the general supervision of Assistant County Road Engineer James H. Marshall, the work in connection with bridges is divided between Bridge Engineer Harry J. Woelber as to plans and supervision, and Dock & Wharf Engineer Frank King as to inspections. Though now and for many years a function of the county engineer's office, the administration of bridges in the early days was placed by legislation directly under the county commissioners.

In 1854 the law provided that bridge construction and repairs over \$50.00 in value were to be undertaken by the county, private work evidently being permitted under that figure. For each project the county commissioners were to appoint a bridge commissioner, (to receive \$3.00 daily), who was to estimate the cost, advertise for bids, let the contract, and supervise the work, which however could not begin until an appropriation not exceeding the estimate was first made. There was provision in the law for interested parties to aid in the construction of bridges by making subscriptions to the county.

The first appropriation of record was made in 1863 for \$60.00 to build a bridge across the Black River by the Military Road leading to Seattle. Evidently nothing was accomplished, because it was not until 1867 that King County's first bridge was built across this stream, by the contractors Russell & Shorey. To superintend this project Erasmus M. Smithers was appointed bridge commissioner, being the first in King County to occupy this office. At about the same time Thomas Alvord was similarly designated for the White River Precinct, and was authorized the year following to negotiate the sale of bonds to finance the building of bridges in his territory. This illustrates the county's weakened financial condition, and shows why bridge construction was so long delayed. The first one across the White River was not erected until 1883, and then, too, undoubtedly from road funds, the use of which was by that time made available for bridges.

For in 1869 an act was passed permitting the utilization of road monies to build and repair bridges, under the direction of a bridge superintendent appointed by the county commissioners, thus abandoning the office of bridge commissioner. The superintendent was to let the contracts, supervise the work and certify completion to the county commissioners. From that time on, the erection of bridges proceeded rapidly, eventually resulting in the elimination of privately-operated ferries in King County.

In 1905 the county commissioners proceedings record the employment of a bridge inspector to examine and report on the condition of all such structures in the county, and this function together with the construction of bridges by contract gradually came under the supervision of the county engineer.

Today bridges, like roads, are governed by the highway code of 1937, projects under \$7,500.00 in cost being performed by the road district supervisors, and inspection, engineering and contracts being under the county engineer.

### BRIDGE EXPENDITURES—(1867 to 1939)

Up to 1901, taken from the county commissioners records, to 1923 from that source and the county auditor's reports, and to 1939 from the latter's figures, this statement of disbursements for bridges must not be considered as accurate, but merely as an indication of the amount of bridge construction, maintenance and repair that has been accomplished in King County since the beginning.

## BRIDGE EXPENDITURES—(1867 to 1939)

(Continued)

Year	Amount	Year	Amount	Year	Amount
1867	\$ 800.00	1892	\$ 1,544.00	1917	\$ 167,124.12
1868	1,500.00	1893	2,543.00	1918	27,028.55
1869	700.00	1894	1,091.00	1919	17,606.64
1870	2,060.00	1895	3,001.13	1920	167,336.18
1871	1,378.00	1896	1,439.05	1921	21,760.00
1872	990.00	1897	535.30	1922	118,927.39
1873	1,100.00	1898	193.70	1923	53,683.19
1874	1,260.00	1899	349.58	1924	108,614.93
1875	1,390.00	1900	554.22	1925	126,842.65
1876	1,666.00	1901	24,938.15	1926	65,612.99
1877	403.97	1902	30,949.38	1927	121,132.27
1878	3,209.44	1903	34,240.55	1928	15,742.75
1879	1,179.00	1904	18,341.94	1929	22,846.32
1880	884.74	1905	51,192.60	1930	34,542.32
1881	451.13	1906	112,712.69	1931	17,275.53
1882	687.44	1907	85,587.21	1932	11,037.33
1883	582.28	1908	53,814.95	1933	50,114.76
1884	4,178.50	1909	74,297.29	1934	40,174.83
1885	1,938.55	1910	40,380.00	1935	142,324.95
1886	696.00	1911	44,605.36	1936	34,320.29
1887	13,582.50	1912	51,975.69	1937	55,329.84
1888	6,464.03	1913	7,675.70	1938	210,587.13
1889	6,654.50	1914	41,428.42	1939	79,372.06
1890	2,975.76	1915	63,394.19	<b>TOTAL</b>	<b>\$2,531,877.17</b>
1891	3,810.00	1916	15,213.21	<b>Average</b>	<b>\$ 34,683.25</b>

## DISTRIBUTION OF BRIDGES

The year 1939 was marked by a vigorous campaign in both the North and South Districts, to replace old wooden bridges with culverts or concrete structures. Its success is indicated by the decrease in the total number of bridges in King County in spite of new construction of wooden spans on newly graded roads.

District	Wood	Steel	Concrete	Suspension	Draw	Total
South District No. 2.....	134	12	23	0	1	170
North District No. 3.....	217	7	7	4	1	236
<b>TOTALS.....</b>	<b>351</b>	<b>19</b>	<b>30</b>	<b>4</b>	<b>2</b>	<b>406</b>

## CONSTRUCTION

During 1939 work was begun and completed on a contract let in December 1938 for the erection of the Foster Avenue Bridge. This and district projects resulted in the following expenditures for construction:

Source	South District No. 2	North District No. 3	Both Districts
Contracts .....	\$ 16,351.08	\$ .....	\$ 16,351.08
C. R. P. Projects .....	2,133.99	.....	2,133.99
CA-600 Projects .....	580.60	2,318.58	2,899.18
Increases in 1938 Costs .....	936.45	.....	936.45
<b>TOTAL.....</b>	<b>\$ 20,002.12</b>	<b>\$ 2,318.58</b>	<b>\$ 22,320.70</b>

## MAINTENANCE

During 1939 district maintenance crews were particularly active in bettering the condition of the bridge system as a whole. This was due largely to a well-ordered plan to strengthen all points of structural weakness. The task of the North District was made especially difficult by the heavy traffic over the Mercer Island bridges incident to the construction of the Lake Washington Toll Bridge, which accelerated the rate of wear at least five times, making heavy maintenance expenditures necessary.

Source	South District No. 2	North District No. 3	Both Districts
C. R. P. Projects .....	\$ 4,503.01	\$ 4,003.16	\$ 8,506.17
CASM 500 Projects .....	3,475.55	9,427.96	12,903.51
Regular Maintenance .....	17,624.75	18,016.93	35,641.68
<b>TOTAL</b> .....	<b>\$ 25,603.31</b>	<b>\$ 31,448.05</b>	<b>\$ 57,051.36</b>

## CONDITION

Inspection of all structures was made at frequent intervals, and their condition classified:

- A—New wooden and permanent bridges in perfect condition.
- B—First class condition in every respect.
- C—Fair condition, needing minor repairs.
- D—Poor condition, needing major repairs, but still safe.
- E—Past the limit of safety and needing immediate repairs.

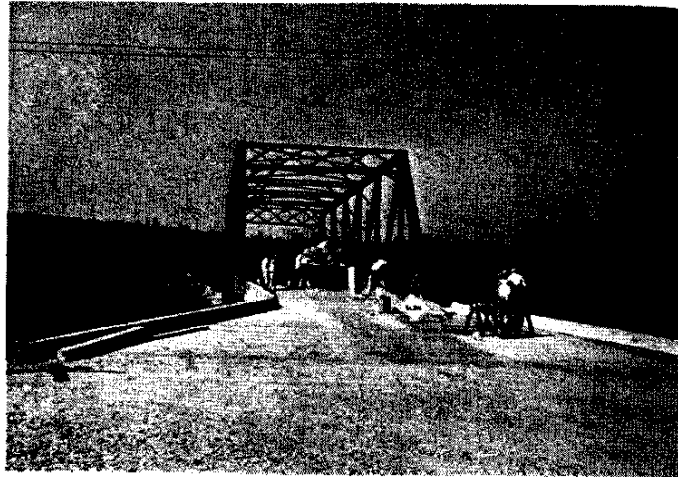
Condition	Reasonable Percentage	South District No. 2		North District No. 3		Both Districts	
		Percent	Number	Percent	Number	Percent	Number
A	20	14	24	5	11	9	35
B	50	47	80	53	125	50	205
C	20	27	45	32	77	30	122
D	8	11	19	9	21	10	40
E	2	1	2	1	2	1	4
<b>TOTALS</b>	<b>100%</b>	<b>100%</b>	<b>170</b>	<b>100%</b>	<b>236</b>	<b>100%</b>	<b>406</b>



**ELIMINATION OF NARROW UNDERPASSES**  
Many Others Are Due For Widening During 1940

**BRIDGE OPERATIONS**

**BRIDGE  
RECONSTRUCTION**  
Showing District  
Repair Crews at  
Work



**BRIDGE  
REPLACEMENT**  
1. Bridge No. 3099  
Original Condition



**BRIDGE  
REPLACEMENT**  
2. Bridge No. 3099  
Replaced with  
Concrete Wing  
Walls and  
Abutment.

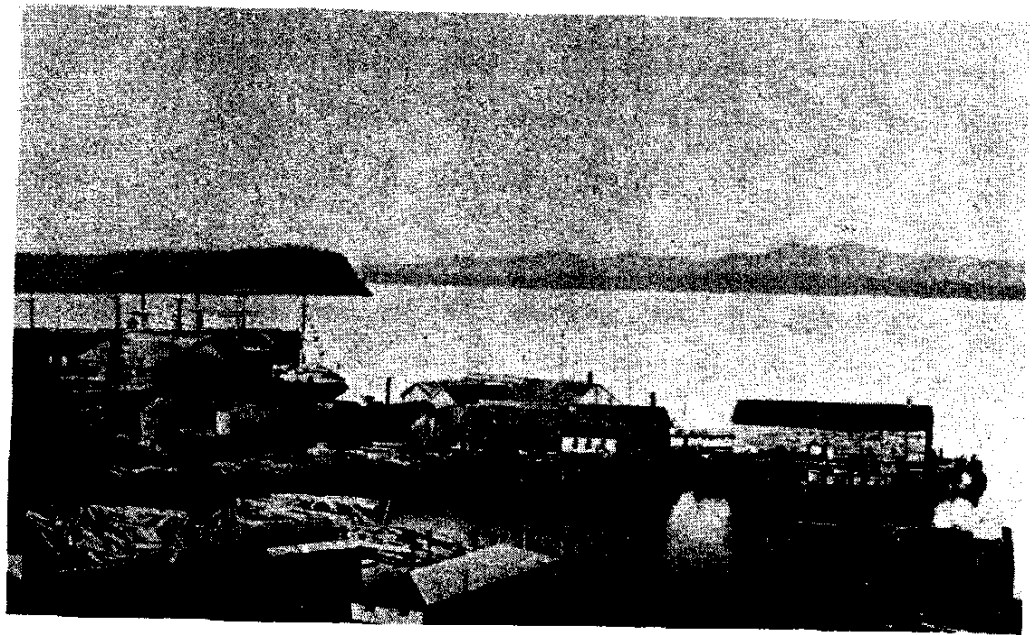




## WHARF DEPARTMENT

Under the general direction of Assistant County Road Engineer James H. Marshall, this department is in charge of Dock and Wharf Engineer Frank King who supervises all construction and maintenance. As a function of county government the care of wharves dates back to 1900 when the only public docks were those used by the ferries then owned and operated by the county. In fact the first wharf expenditures, between 1900 and 1919 inclusive, came out of the ferry budget, which in 1920 became the ferry, wharves and docks account to which were added the docks, dock sites and wharves budget, and the industrial tracts. During all this time payments were also made out of road and road and bridge funds. By 1922 disbursements were being made from the industrial tracts, dock sites and wharves budget, which, while it continued until 1929, gave way in 1924 to the present county wharves budget. Thus the department as today constituted may be said to date from 1924, since which time, (and perhaps earlier) it has been a function of the county engineer's office.

Prior to 1900, all docks were privately built and owned pursuant to legislation dating back to 1854 (reaffirmed in 1881 and 1893) giving county commissioners the power to authorize the private erection of wharves on property owned by the petitioner, or at the terminus of a public highway, with the right to regulate rates for all traffic excepting passengers and their baggage which were free. The first wharf thus constructed was Yesler's at the foot of Yesler Way, which however operated without proper authorization from 1853 to 1868, when the county commissioners duly recorded a permit to H. I. Yesler for a ten-year period. Thus the first wharf received the first legal blessing. Added to continually, by 1881 it supported a miniature town.



YESLER'S WHARF IN BACKGROUND—ABOUT 1885

with a street down the center lined by warehouses, stores and shops. The second dock was Plummer's at the foot of Main Street, then came Butler's at the foot of Madison Street, Dexter Horton's, Stone & Burnett's, Dr. Calhoun's at Belltown, etc. By 1876 there were eight wharves in Seattle, and by 1888 they lined the shores of Elliott Bay, all being exceptionally long structures required by the extreme of low and high tides. The owners considered their titles secure, so that when in 1890 the legislature created the State Harbor Line Commission to designate the exact line and areas of all harbors within the state, wharf owners took exception to the ruling of the commission that they were trespassers. Henry L. Yesler was the first to contest this action, but the United States Supreme Court rendered a decision favoring the harbor commission, since which time title to all wharves built on public domain have remained with the governmental authorities.

In 1899 an act was passed authorizing counties to construct condemn and purchase, or purchase, and to maintain wharves, with grounds, roads, approaches or landings and to operate them free or with tolls. Having already been authorized by law in 1895 to acquire and operate ferries in the same manner, it may be assumed that the need for ferry docks became evident when in 1899 King County planned an incursion into the field of water transportation. Under this legislation the first wharf acquired by the county as noted in the commissioners records was that built in 1894 by M. R. Hatch at Burton, which he agreed to transfer on condition that the county keep it in repair. This act did not immediately affect the private construction of docks, for in 1903 a permit was granted among others to W. T. Gaffner to build one at Harrison Avenue, West Seattle, in 1904 to W. L. Dudley at Hanson Avenue, Alki Point, in 1906 to the Alki Point Transportation Company, at Alki Avenue, Alki Point.

Nevertheless, the county soon began in earnest to acquire privately-owned wharves, and to erect others, especially those to be used as ferry terminals. The first was at Vashon, then in 1900 Kirkland and Madison Street, Seattle, followed in 1902 by the Furth Dock on Lake Washington. Then a new one was built in 1903 at Stone's Landing (Stoneway), Des Moines in 1904; Mercer, Chautauqua, Portage, Juanita, and Houghton in 1905; Lisabuela, in 1906; Cove, Newport, Medina, and Kennydale in 1907; until today the county owns fifty-one wharves and twenty-two dock sites not yet improved with structures.

From the beginning, the county surveyor was instructed to draw the plans for all these improvements, though the operation of the wharves, at least until 1924, seems to have been a separate organization under the direction of the county commissioners. An analysis of county wharf expenditures and the budgets from which they were made will demonstrate effectively the changes which have occurred in wharf administration since 1900. Prior to that date there were scattered payments out of the road and road and bridge funds, mostly in the nature of assistance to wharf owners whose docks were at the terminus of a public highway, and not exceeding about \$1,500.00 in all. In those days the county commissioners felt such expenditures to be a proper charge on road funds, and after a lapse of many years their correctness is borne out by Section 7, Chapter 187, of the Highway Code which provides that payment for construction, repair and maintenance of wharves necessary for vehicle ferriage and for other proper county road purposes must be made from the county road fund.

Disbursements listed on the opposite page include administration, capital, outlay (including dock sites), construction, repairs and maintenance.

## EXPENDITURES—(1900-1939)

Year	BUDGET ACCOUNT	Total
1900	Ferries .....	\$ 5,464.38
1901	{ Ferries ..... \$ 806.50 Road and Road & Bridge ..... 262.34 }	1,068.84
1902	Road and Road & Bridge .....	3,055.51
1903	Road and Road & Bridge .....	3,007.94
1904	Road and Road & Bridge .....	2,685.95
1905	Road and Road & Bridge .....	4,388.49
1906	Road and Road & Bridge .....	8,799.92
1907	Road and Road & Bridge .....	11,074.74
1908	Road and Road & Bridge .....	15,793.08
1909	Road and Road & Bridge .....	11,834.20
1910	Road and Road & Bridge .....	2,512.57
1911	Road and Road & Bridge .....	6,672.60
1912	{ Ferries ..... \$ 6,281.86 Road and Road & Bridge ..... 2,902.85 }	9,184.71
1913	Road and Road & Bridge .....	13,285.11
1914	{ Ferries ..... 1,140.16 Road and Bridge ..... 12,761.14 }	13,901.30
1915	{ Ferries ..... 1,398.62 Road and Bridge ..... 12,134.57 }	13,532.99
1916	{ Ferries ..... 5,681.88 Road and Bridge ..... 17,084.57 }	22,766.45
1917	{ Ferries ..... 3,259.85 Road and Bridge ..... 25,761.63 }	29,021.48
1918	{ Ferries ..... 18,102.93 Road and Bridge ..... 57,672.02 }	75,774.95
1919	{ Ferries ..... 36,964.34 Road and Bridge ..... 8,836.64 Dock Sites ..... 15,000.00 }	60,800.98
1920	{ Ferry Wharves and Docks ..... 41,999.34 Docks, Dock Sites and Wharves ..... 24,336.90 Industrial Tracts ..... 10,438.50 }	76,774.74
1921	{ Ferry Wharves and Docks ..... 95,166.87 Industrial Tracts ..... 26,038.47 }	121,205.34
1922	Industrial Tracts, Dock Sites and Wharves .....	13,443.26
1923	Industrial Tracts, Dock Sites and Wharves .....	18,985.37
1924	{ County Wharves ..... 7,871.34 Industrial Tracts, Dock Sites & Wharves ..... 5,078.29 }	12,949.63
1925	{ County Wharves ..... 11,563.59 Industrial Tracts, Dock Sites & Wharves ..... 5,218.54 }	16,782.13
1926	{ County Wharves ..... 8,619.66 Industrial Tracts, Dock Sites & Wharves ..... 6,322.30 }	14,941.96
1927	{ County Wharves ..... 20,682.49 Industrial Tracts, Dock Sites & Wharves ..... 5,919.67 }	26,602.16
1928	{ County Wharves ..... 11,403.87 Industrial Tracts, Dock Sites & Wharves ..... 5,901.86 }	17,305.73
1929	{ County Wharves ..... 18,917.19 Industrial Tracts, Dock Sites & Wharves ..... 16,556.70 }	35,473.89
1930	County Wharves .....	5,121.84
1931	County Wharves .....	66,571.33
1932	County Wharves .....	11,896.12
1933	County Wharves .....	10,850.57
1934	County Wharves .....	10,232.86
1935	County Wharves .....	13,665.76
1936	County Wharves .....	50,701.13
1937	County Wharves .....	46,414.29
1938	County Wharves .....	38,782.75
1939	County Wharves .....	42,790.06
	TOTAL .....	\$966,117.11
	Yearly Average .....	\$ 24,152.93

**EXPENDITURES BY SOURCE—(1900-1939)**

Total expenditures from 1900 to 1939 classified by source are:

Year	Budget	Amount
1900-1918	Ferries .....	\$ 79,100.32
1901-1919	Road and Road & Bridges .....	220,525.87
1919	Dock Sites .....	15,000.00
1919-1921	Ferry Wharves & Docks .....	137,166.21
1920	Docks, Dock Sites & Wharves .....	24,336.90
1920-1921	Industrial Tracts .....	36,476.97
1922-1929	Industrial Tracts, Dock Sites & Wharves .....	77,425.99
1924-1939	County Wharves .....	376,084.85
	<b>TOTAL</b> .....	<b>\$966,117.11</b>

**DETAILED EXPENDITURES—1939**

Figures are given by accounting classifications, and by disbursement on wharves. The difference of \$3,805.91 is made up of items not chargeable to any particular wharf, such as administrative, machinery, equipment, and tools, and miscellaneous overhead expense. In addition to expenditures from the wharf budget, engineering and other technical assistance caused an outlay of \$505.97, from county engineer's funds.

**By Accounting Classifications**

Materials and Supplies .....	\$ 18,853.48
Labor .....	21,297.22
Industrial Insurance & Medical Aid .....	241.95
Wharf & Dock Insurance .....	154.34
Transportation .....	347.15
Motor Vehicle Operation & Maintenance .....	896.07
Capital Outlay .....	999.85
	<b>\$ 42,790.06</b>

**By Wharves**

Wharf	Amount	Wharf	Amount
Burton .....	\$ 558.64	Manzanita .....	\$ 70.00
Colvos .....	5,704.77	Medina .....	990.57
Cove .....	106.98	Portage .....	10,866.33
Dockton .....	298.51	Proctor .....	877.61
Ellisport .....	245.36	Prospect Street .....	6,361.20
Fruitland .....	985.35	Roanoke .....	197.97
Harbor Heights .....	3,317.13	Rosehilla .....	126.60
Island Park .....	1,701.57	Sealth .....	435.27
Kirkland .....	1,389.05	Stoneway .....	99.84
Leschi .....	1,577.91	Tahlequah .....	411.51
Lisabuela .....	127.59	Vashon Heights .....	713.28
McGilvra .....	542.83		
Madison .....	1,278.28	<b>TOTAL</b> .....	<b>\$ 38,984.15</b>

### LOCATION

King County owns 51 wharves and 22 wharf-sites not in use at present, distributed as follows:

Districts	Location	Wharves	Sites (Not in Use)
City District No. 1.....	Lake Washington .....	2	....
	Lake Union .....	1	....
	Elliott Bay .....	1	....
	TOTAL .....	4	....
South District No. 2.....	Vashon Island .....	16	8
	Puget Sound .....	1	3
	Duwamish Waterway .....	1	1
	TOTAL .....	18	12
North District No. 3.....	Lake Washington .....	28	10
	Lake Union .....	1	....
	TOTAL .....	29	10
TOTAL ALL DISTRICTS .....		51	22

Of these wharves six are leased to ferry operators, four to industrial concerns and one to the United States Government, the balance being operated by the county. All but one are maintained by the county. The annual income from leases is approximately \$6,000.00, all improvements made by the lessees reverting to the county at the expiration of the terms of the various leases.

### CONSTRUCTION

The largest project in 1939 was the reconstruction of Portage Wharf situated on the east side of Vashon Island near the isthmus which connects Vashon with Maury Island. This is the most-used non-ferry wharf owned by the county. Its central location, shelter from storms at any season, and deep water make it the favored landing place of Sound freighters hauling hay, straw, and grain to the Island and carrying berries, fruit, cattle and poultry to market. In addition the Standard Oil Company has leased the right to unload tankers here, conveying the oil through pipes laid on the dock to their storage depot nearby. This wharf was completely rebuilt, extending into water deep enough for any steamer coming to Puget Sound, at a cost of \$10,866.33.

Next in size was the rebuilding of Prospect Street wharf in Lake Union. This is an industrial dock, moorage being rented to fishing vessels and cannery tenders with storage space provided on shore. Due to the presence of a rubbery mud under this wharf extremely long piles were driven. The total expended here was \$6,361.20.

Colvos Wharf, a berry shipping point on the west side of Vashon Island was rebuilt at a cost of \$5,704.77. This is also a regular landing point for a passenger steamer.

Harbor Heights Wharf on Quartermaster Harbor was replaced at a cost of \$3,317.12. This is a passenger boat landing at a point inaccessible by road, the original structure having been built and paid for by the residents of the vicinity although it was on a county right-of-way.

Nineteen other wharves were rebuilt or repaired ranging in expense down to an item of \$70.00 spent at Manzanita for a shelter for passengers waiting for the boat.

## KING COUNTY FERRIES

While not properly a function of the county engineer's office, the operation and maintenance of ferries has been considered from the earliest days as being related to the county road system. For in 1869 legislation was passed, entitled "An act in relation to roads, ferries, bridges, and travel on public highways." Chapter II of this law is concerned with the establishment and regulation of ferries, which would lead to the assumption that this means of transportation, like bridges, was then thought of in connection with highways. More recently, the highway code of 1937 provided in Section 7, Chapter 187 that expenditures on wharves necessary for vehicle ferriage and for other proper county road purposes, must be made from the county road fund, which the prosecuting attorney of King County so interpreted. Furthermore, ferries, like wharves, when operated or maintained by a county, have been held by the State Supreme Court in 1939 to be a part of the county road system. This decision was rendered in the case of *King County v. Murrow*, 199 Wash. 685, wherein the question was as to whether or not the marine insurance premiums covering the Lake Washington ferries should be paid out of the motor vehicle fund (county road fund). Hence it is believed that a brief review of ferry legislation and activities will be of interest.

In the early days of King County, transportation and communication were by water. Without roads, ferry service was essential, and in addition to the many licenses for operation across rivers granted by the county commissioners beginning in 1853, small craft operated to all points along the Puget Sound, navigating the White, Duwamish and other streams. These boats were the only contact that outlying villages had with Seattle and in fact they took the place of the stage coach in settling territory along both sides of Puget Sound. Such settlements at that time were like suburbs of Seattle, for all of them did their shopping and marketing here.

The first license issued in King County was granted in 1853 to Luther M. Collins to maintain a ferry across the Duwamish River, near his house. The license fee was \$2.00 for the first year, and the rates of ferriage were 12½ cents for each footman, 50 cents for each man and horse, \$1.50 for each wagon with two horses or oxen, 12½ cents each for loose cattle or horses, and 5 cents each for sheep and hogs. This and many other licenses were granted by the commissioners pursuant to legislation authorizing them to do so for periods not to exceed five years with fees ranging from \$1.00 to \$100.00. Commissioners were to establish and regulate the rates, and they had the power to revoke any license if the ferry operator abandoned the route, failed to pay the fee, or violated any other provisions. Although a great number of permits were issued, not one river ferry exists in King County today. Bridges now span all streams, and roads now connect nearly all points on the mainland that years ago depended on water transportation.

The development of sound and lake ferries was entirely different, as even today (aside from the Lake Washington Pontoon Bridge now building) contact between points on these waters must be made by vessel. By 1854 there were four regular lines operating on Puget Sound touching at Seattle, all of them sailing vessels, until the arrival that year of the "Beaver," which was the first steamboat to engage in local traffic on the sound. The first incorporated transportation company in which King County citizens were interested was the Puget Sound Steam Navigation Company, created by the legislature on January 5th, 1855, among whose stockholders were H. L. Yesler and C. C. Terry. Gradually steam and tug boats multiplied on the sound and by 1863 they were being built in Seattle, the first being the "J. B. Libby," and "Mary Woodruff." Soon every point was served by steamer; the Puget Sound Navigation Company being organized in 1891 and later the Kitsap Transportation Company.

By 1895 the legislature authorized counties to construct, condemn and purchase, or purchase, and to maintain ferries, with grounds, roads, approaches and landings

and to operate them free or with toll. Under this act the Orillia Ferry Co. was in 1897 the first to endeavor to transfer their enterprise at Orillia to King County, but their proposition was rejected. It was deemed more important to improve service on Lake Washington and in 1899 a contract was let to Moran Brothers Company for \$22,800.00 for the construction of a ferry. Completed at a cost of \$25,183.72 it was named "King County" and the following personnel employed to operate it: George Bartsch as captain at \$100.00 monthly, engineer \$100.00, pilot \$80.00, purser \$80.00, fireman \$70.00 and night watchman \$65.00. Ferry slips at Madison Street in Seattle and at Kirkland, were contracted for in 1900, rates were established and the county began operation the same year.

Evidently not successful, the ferry was leased in 1901 to George Bartsch and H. E. Tompkins for three years, they to receive all receipts and \$375.00 monthly. Renewed in 1904 for a similar period the lessee received \$140.00 per month and all receipts, overhaul and insurance to be paid by the county. In 1907 the "King County" sank, was raised at county expense, with Captain Bartsch employed as superintendent of these operations, and finally sold to him for \$750.00.

The lease having expired, the county decided to construct a new ferry boat, named "Washington," costing \$78,658.16 and to operate it. Until completed, the Anderson Steamboat Co. was allowed \$300.00 monthly for ferriage by barge between Madison Park and Kirkland. By 1908 the county was again in the transportation service and eleven years later they had twelve vessels, seven owned outright and five leased from others, and were employing a superintendent of transportation. By 1920 all leased boats were acquired, the total expenditures for purchases and operation being approximately \$690,000.00 including only the Leschi terminal, the others being maintained out of the ferry wharves and docks budget. For 1921, operation and maintenance alone amounted to about \$475,000.00, which led to the decision to turn the system over to private parties.

Resolution No. 805, passed August 1, 1921, provided for the calling of bids for the lease of the county ferries. Involved were the steamboats Lincoln, Leschi, Fortuna, Washington, West Seattle, Atlanta, Aquila and Dawn; the diesel powered Vashon Island and Robert Bridges; launches Dr. Martin and Mercer. The routes over which these operated were Madison Park to Kirkland, Leschi Park to Medina, Leschi Park to Roanoke, and Elliott Bay (or Fauntleroy) to Vashon Heights to Harper. The successful bidders were the Kitsap County Transportation Company to whom the "Washington" and "West Seattle" were leased for the Puget Sound run for ten years, and J. L. Anderson who leased the remaining vessels for use on Lake Washington, for a similar period.

Both of these firms are still operating county ferries under lease, though legislation permitting counties to engage in this service is still in force. An attempt was made recently to bring the Lake Washington lines back under the county, but it was unsuccessful.

## FEDERAL AID PROJECTS

Participation of the United States in public works construction in King County has been made through the Public Works Administration and the Works Progress Administration. By far the latter method of aid in financing provided most of the assistance received.

### W. P. A. PARTICIPATION IN HIGHWAY CONSTRUCTION

The need for utilizing the labor of those on relief is not a new problem facing King County. As far back as 1908 there appears a record in the commissioners proceedings showing that \$5,000.00 was appropriated by the county to join with the city in providing work for the unemployed in the improvement of highways leading into Seattle. So that the large sums set aside for road construction and repairs since the initiation of the W. P. A. work-relief program have served the dual purpose of helping those in need and rehabilitating the King County road system. The need continued throughout 1939, but congressional action tended to limit W. P. A. funds with the result that their contribution in labor was the smallest in years. Projects already set up for 1940 show a slight increase, with more in line for W. P. A. approval.

PROJECTS	DISTRICT NO. 2		DISTRICT NO. 3		TOTAL	
	No. of Projects	Amount	No. of Projects	Amount	No. of Projects	Amount
1939—Completed .....	4	\$ 71,998.60	3	\$ 19,887.45	7	\$ 91,886.05
1939—Under Way ....	5	57,862.99	3	35,517.95	8	93,380.94
1940—Proposed .....	12	86,078.21	10	104,483.62	22	190,561.83

### King County's Share of Completed W. P. A. Projects

1936 .....	\$161,329.00
1937 .....	90,339.00
1938 .....	302,330.00
1939 .....	24,457.00
<b>TOTAL .....</b>	<b>\$578,455.00</b>

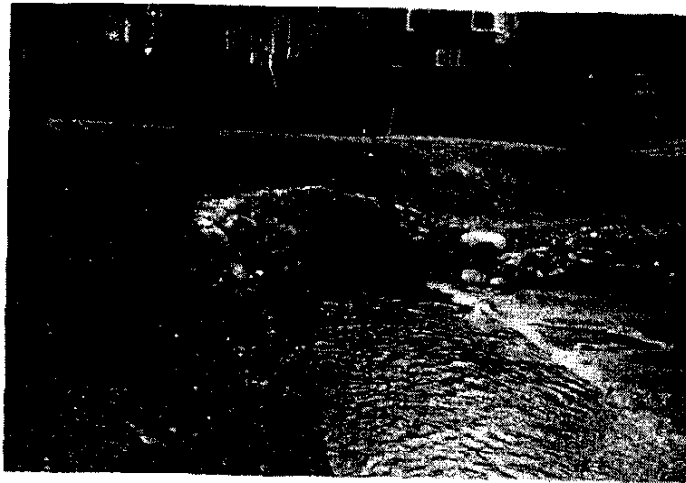
### P. W. A. PARTICIPATION IN HIGHWAY CONSTRUCTION

This is effected by means of grants in aid amounting generally to 45 per cent of the total cost. The county advances the entire cost, and then on application to the governmental authorities receives a refund of the amount of grant decided upon. For 1939 the following were claimed and received:

Project Number	Name of Project	Docket Number	Allotment	Amount Claimed	Amount Received
CRP 45	15th Avenue N. E. Paving....	1532-F	\$15,480.00	\$14,234.00	\$14,046.89
81	Enumclaw-Campton Road .....	1300-F	15,120.00	14,287.54	13,754.68
138	Holman Road—Units 1-2-3....	1431-F	52,816.00	52,816.00	52,816.00
	<b>TOTALS.....</b>		<b>\$83,416.00</b>	<b>\$81,337.54</b>	<b>\$80,617.57</b>



W. P. A. HIGHWAY CONSTRUCTION



Installation of  
42-inch  
Armco Culvert



Brockman Addition  
Grading Operations



Brockman Addition  
Grading Completed

## KING COUNTY AIRPORT—C. A. A. WAREHOUSE (P. W. A. Project)

### Construction 1939

In accordance with the plan of developing strategically placed airports throughout the country which could be used for military purposes in time of emergency, the Civil Aeronautics Authority chose King County airport as one of its headquarters. In order to accommodate them special construction for their use was necessary, for which a lease was signed for five years at \$300.00 per month or \$18,000.00. A federal grant having been arranged for to aid in financing the project, the county commissioners authorized the building of the warehouse and office structure.

Work was begun by the general contractors, the Washington Construction Company, on November 18th, 1938 and completed on March 6th, 1939, at a total cost of \$35,891.81. P. W. A. original allotment was \$18,000.00, but only \$17,088.44 was claimed. Certain items being disallowed, the federal refund amounted only to \$16,555.18.

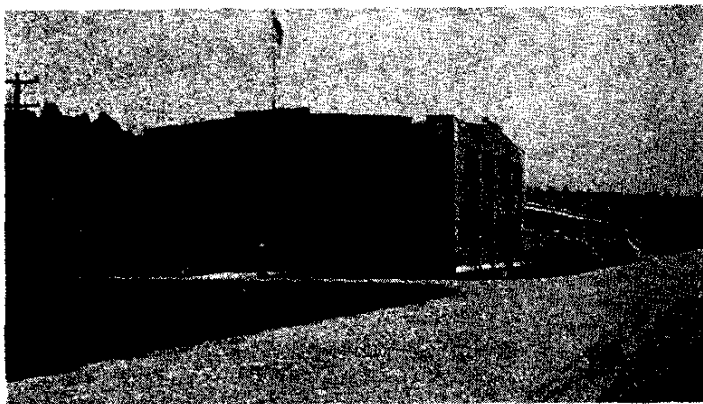
The building is of masonry construction, the main structure being two stories high and sixty-two feet square, for office use, attached to which is a one-story warehouse 180 feet long by 60 feet wide, for shops and storage. The completion of the project has brought to Seattle about two hundred employees, but a large increase in staff has already become necessary.

Under a separate contract, the Washington Construction Company built a 40x40 foot addition over the north wing of the administration building, for use as control tower. Fully equipped with the necessary technical machinery the cost approximates \$9,000.00.

### Proposed for 1940

*Addition to the C. A. A. Building.* Due to the necessity for an increase in personnel, an addition to the existing building is urgently needed. Plans for this construction, as well as for a 14-car garage, are already completed, and as soon as funds become available a contract will be let at an estimated cost of \$20,000.00.

*New Airplane Hangar.* Plans are being prepared in the county engineer's office for a large airplane hangar, which is very essential if the King County Airport is to give the service that may soon be required in view of the international situation. To cost about \$180,000.00, the county authorities are exploring ways to finance this work with federal aid, and if successful a contract will be awarded during the coming year.



Completed  
Structure

## KING COUNTY AIRPORT—BOEING FIELD (W. P. A. Project)

Begun in 1936, work proceeded continuously until September of 1939, when the project was permanently closed down on orders from Washington, D. C. The county engineer's office continued to provide the engineering and supervision.

*Estimated Cost.* W. P. A.....\$539,490. King County.....\$46,480. Total.....\$585,970. Of this amount approximately \$490,998 has been expended. King County's share which was originally supposed to be \$2,200 was increased to \$46,480 but even this has been exceeded, disbursements on the part of the county reaching a total of about \$89,118.71.

*Work Completed.* Before the project was discontinued 17,000 linear feet of six-foot steel fence was built around the entire field costing some \$35,000.00. The balance of graveling still was to be done, but due to the shut-down of all projects running three or four years, a new proposal will have to be made to the W. P. A. authorities.

Work Done	1936	1937	1938	1939	Total
Drain Pipe, 8" to 30".....	\$ 82,678	\$ 8,000	\$ .....	\$ .....	\$ 90,678
Manholes, Catch Basins, etc.....	12,000	1,000	.....	.....	13,000
Gravel Backfill .....	8,500	6,500	.....	.....	15,000
Grade New Runways .....	36,189	61,000	23,000	.....	120,189
Gravel Resurfacing .....	3,000	29,400	82,000	.....	114,400
Remove Blacktop and Grade Old Runway .....	23,269	.....	.....	.....	23,269
Electrical Installation .....	.....	.....	20,000	.....	20,000
Scarifying .....	.....	.....	8,000	.....	8,000
Landscaping .....	.....	.....	10,000	.....	10,000
Fencing .....	.....	.....	.....	35,000	35,000
Miscellaneous .....	32,900	3,562	5,000	.....	41,462
<b>TOTAL .....</b>	<b>\$198,536</b>	<b>\$109,462</b>	<b>\$148,000</b>	<b>\$ 35,000</b>	<b>\$490,998</b>

### Proposed for 1940

*Field Surfacing Project.* Application is being made to the W. P. A. for the following work to cost approximately \$94,600 of which King County's share as sponsor is to be \$36,600:

1. Complete the base graveling of beam runway No. 4.
2. Surface beam runway No. 4 with raylig-bound base and asphalt seal coat.
3. Fine grade entire landable area.
4. Seed a fifty-foot strip surrounding the runways.
5. Landscaping around buildings.
6. Construct parking areas.

*Sewer Project.*—W. P. A. approval has already been obtained and work will begin as soon as funds are allotted. This construction calls for a new sanitary sewer, 1.02 miles long, serving all the buildings on the field, to cost about \$37,393 with King County as sponsor furnishing \$10,067.

## DEPARTMENT OF PLANS AND SURVEYS

Under the direction of Engineer of Plans and Surveys D. L. Evans are the drafting room, blue-print plant, counter and record vault. The duties of this department include working up notes on surveys of all kinds; preparing establishment papers, deeds, and other necessary documents; resolutions, estimates and plans for various types of construction; segregation of assessments; traffic surveys when required, etc. Here also the court draftsman prepares engineering maps and other data for the county prosecutor.

### DRAFTING ROOM

During the course of the year about 175 plans for different projects were prepared, 80 detailed estimates calculated, and 120 resolutions submitted for establishment, improvement and vacation of various roads. In addition much work was accomplished on non-road projects, and services rendered to other county units, as requested and generally gratis. A detailed list of the cost of office work in this connection will be found in the section headed "Accounting."

Map work done during the year included work on those for North and South District roads, King County bridges, state traffic survey, house numbering, street names, King County relief and section maps, and amounted to \$3,258.53 from county engineer's funds.

### ROAD PETITIONS

Though the county commissioners have had authority since the beginning to establish roads on their own initiative, petitions have been responsible for most of the highways in the county. The first legislation in 1854 required on each application the names of at least twelve house-holders, resident in the vicinity of the proposed improvement, and two days labor was also exacted if the petition was granted. This work provision seems gradually to have been eliminated, but twelve signatures were necessary until 1893. That year, and confirmed by each succeeding act relating to the establishment of roads, only a minimum of ten persons, variously called house-holders or freeholders, had to sign petitions for improvements in order to receive the proper consideration of the county commissioners. Generally, petitioners had to furnish bond to guarantee payment of county costs should their application be denied. In 1901 the law gave commissioners the discretion of requiring the principal petitioner to secure waivers for the necessary right-of-way before even considering their request.

A search of the records in the offices of the commissioners, auditor and engineer, reveals that, excluding territorial roads, there have been about 3,500 petitions filed between 1855 and 1939, or an average of approximately 41 per year. It might be assumed that with roads in all directions there would be a dearth of petitions, but the reverse is true. The record shows that in depression years there were few applications for road improvements, but as soon as conditions became better requests began to come more freely. The recent experience is no different, which found the years 1937 and 1938 with 222 and 229 petitions respectively, the heaviest since the earliest days. This year only 89 were received which were handled as follows:

Action Taken	District No. 2	District No. 3	Total
Petitions received .....	27	62	89
Referred to Road Engineer .....	27	61	88
Recommended by Road Engineer .....	16	22	38
Rejected by Road Engineer .....	11	27	38
Pending .....	....	12	12
For district action .....	....	1	1

We the undersigned petitioners of King County do pray & will ever pray the honorable the Board of County Commissioners of said County to locate a County <sup>road</sup> as follows "to wit"

Commencing at the land claim of John Thomas & running to the land claim of Joseph Foster from thence down the Stearns River on the south side & cross said River at the land claim of G. B. Lewis & B. B. Schind thence on the most practicable route to intersect the territorial road at or near the east part of the land claim of Henry Van Asselt.

For and  
J. S. Sisson, Secy.  
Aug. Barrie  
John A. W. Smith  
B. L. & John  
Henry Van Asselt  
W. H. Lee  
J. Foster  
H. H. Bryant  
H. S. Taylor  
J. H. Stebbins  
John A. W. Smith  
J. C. Haggerty  
H. H. Hickey

And  
G. S. Goring  
Joseph H. Lee  
W. H. Thompson  
J. H. S. Stewart  
John A. W. Smith  
Chas. C. Johnson  
Deputy Norton  
Henry Van Asselt  
John A. W. Smith  
Chas. H. Hickey  
David S. Goring  
S. B. Thompson

W. H. Lee  
F. Matthews  
John A. W. Smith  
J. H. Stebbins  
W. H. Lee

H. H. Hickey  
J. H. Stebbins  
J. A. Clark  
J. H. Stebbins  
J. H. Stebbins  
J. H. Stebbins

## FIRST ROAD PETITION FILED

Road from John Thomas to Henry Van Asselt Claims.  
Known as County Road No. 2

## ROAD ESTABLISHMENTS

The record in the county engineer's office begins in 1860. Prior to that highways were viewed, surveyed, and built without an official establishment. So frequently was this done that in 1867 the legislature decreed that all roads now opened and travelled were declared public roads, and that no new ones would be legal until recorded in the book.

Besides, not all petitions were granted, so that the number of establishments is naturally far less than the applications received. From 1860 to 1939 there were a total of 2,142 establishments or an average of about 27 per year. For 1937 to 1939 the detailed record follows:

District	1937	1938	1939
South District No. 2.....	13	58	20
North District No. 3.....	14	29	15
TOTAL.....	27	87	35

## SURVEYS

All requests for surveys are passed to Chief Survey Engineer C. Glen Smith, after first being recorded in the drafting room. Four field parties operated throughout the year on location and construction work. Reconnaissance surveys were also made, principally by the district engineers, in close cooperation with the engineer of plans and surveys and the chief survey engineer, all licensed engineers.

Not always were such surveys in the hands of professional men. Undoubtedly because of the scarcity of technical engineers among the pioneers, early legislation did not insist on qualified viewers, as they were then called. In 1854 the law provided that three disinterested householders were to be appointed by the county commissioners to locate and mark roads petitioned for establishment or relocation, for which service they were to receive \$3.00 per day. They were to take an oath to perform their duty faithfully and were subject to a fine of \$10.00 in case of neglect. Their rate of pay varied from \$3.00 in 1854, to \$2.00 in 1869, at the commissioners' discretion in 1871, \$2.50 in 1890, and back again to \$2.00 in 1895 until the use of viewers was discontinued about 1902.

Of help to these non-professional men was legislation passed in 1869, which for the first time gave detailed instructions in the manner of making surveys. As road operations became more intensified it was undoubtedly realized that laymen could not cope with the situation, for in 1881 the commissioners were authorized to appoint three viewers, one of whom was to be a surveyor. In 1890 three disinterested freeholders were again utilized to view roads but the commissioners were required to hire a surveyor or civil engineer as well. By 1893 they were back again to the status of 1881, appointing three residents as viewers, one of whom might be the county surveyor, and two years later it was mandatory that this official be one of them. By 1902 petitions for road improvements were being referred by the commissioners directly to the county surveyor for view and survey.

Seattle April 8<sup>th</sup> 1862

Personally came J. W. Borch and made  
oath to perform the duties as Road viewer  
to view out the a road from Ranger to  
Squak Prairie faithfully

before me S. P. Combs  
Auditor

VIEWER'S OATH OF OFFICE

Seattle March 5<sup>th</sup> 1855

We the undersigned ~~being~~ <sup>having</sup> been appointed by the  
Board of Road Commissioners of King County  
Washington Territory to view and locate a  
County Road; Leaving the Territorial Road at  
the land claim of Henry Van Aselt, thence up  
the Duwamish River and across said river at  
the land claims of B. L. Johns and C. C. Lewis.  
Thence rising up on the south side of White  
river and intersects the Territorial Road at the land  
claim of John Thomas. We would beg leave to  
report that we have discharged the duty  
assigned to us and find the said Road  
practicable to be of Public Utility and the  
ground over which it passes generally very favorable.  
The Expenses <sup>viewing</sup> of said Road are Eight days service ~~the~~  
performed by the undersigned

John Henning  
J. H. Gilliam  
J. H. Foster  
Chas. C. Jones

VIEWER'S REPORT—(RECONNAISSANCE SURVEY)

Road from John Thomas to Henry Van Aselt Claims.  
Known as County Road No. 2.

## SURVEYS BY TYPE AND COST—1939

TYPE OF SURVEY	District No. 2		District No. 3		Both Districts	
	No.	Amount	No.	Amount	No.	Amount
Paving, Concrete .....	....	\$ .....	1	\$ 1,575.19	1	\$ 1,575.19
Sidewalks .....	6	2,675.68	3	289.28	9	2,964.96
Grading .....	19	6,013.03	15	5,499.20	34	11,512.23
Flood Control .....	....	....	19	6,212.12	19	6,212.12
Drainage .....	2	162.10	9	1,121.00	11	1,283.10
Sewers .....	....	....	6	2,197.12	6	2,197.12
Location .....	68	9,824.27	61	7,195.87	129	17,020.14
Property Lines .....	7	1,008.49	5	660.52	12	1,669.01
Plats .....	2	71.88	4	272.21	6	344.09
Miscellaneous .....	2	168.72	1	54.34	3	223.06
Total .....	106	\$ 19,924.17	124	\$ 25,076.85	230	\$ 45,001.02
W. P. A. Triangulation Survey.....	....	....	....	....	1	2,395.58
TOTAL .....	106	\$ 19,924.17	124	\$ 25,076.85	231	\$ 47,396.60

## SURVEYS BY CLASSIFICATION AND COST—1939

CLASSIFICATION	District No. 2		District No. 3		Both Districts	
	No.	Amount	No.	Amount	No.	Amount
Contract Projects .....	....	\$ .....	1	\$ 3,291.86	1	\$ 3,291.86
County Road Projects .....	18	8,965.23	14	4,440.54	32	13,405.77
Road District Projects .....	56	8,361.13	56	6,891.39	112	15,252.52
Docks & Wharves .....	3	209.18	4	235.53	7	444.71
Parks and Playgrounds .....	4	434.77	4	706.41	8	1,141.18
W. P. A. Projects .....	10	2,086.39	....	....	10	2,086.39
River Improvement .....	....	....	19	6,212.12	19	6,212.12
Budget .....	15	415.77	26	2,750.70	41	3,166.47
Total .....	106	\$ 20,472.47	124	\$ 24,528.55	230	\$ 45,001.02
W. P. A. Triangulation Survey .....	....	....	....	....	1	2,395.58
TOTAL .....	106	\$ 20,472.47	124	\$ 24,528.55	231	\$ 47,396.60

W. P. A. ENGINEERING LAND SURVEY  
(Triangulation Controlled)

Begun in 1937, this project for the establishment and coordination of all section corners continued through 1939, with a shut-down for about three months due to lack of W. P. A. funds. An outgrowth of W. P. A. projects for the recovery of section corners and land use in connection with an aerial survey, the object of the present effort is to coordinate and monument with permanent markers, the corners so recovered. Though the original estimated cost of \$139,115.00 has already been exceeded, additional funds have been made available by both the county and the W. P. A. authorities, so as to complete this worth while project.

FIELD WORK ACCOMPLISHED		OFFICE WORK ACCOMPLISHED	
Section corners tied in.....	273	Sta. Computed to Lambert Grid	
Section corners set .....	273	Section corners .....	482
Miles of traverse .....	260.82	Traverse monuments .....	2204
Traverse monuments set .....	1198	Miles of level line adjusted .....	398
All other permanent monuments	1026	Miles of traverse abstracted.....	275.5
Miles of levels .....	260.82	Miles of traverse computed.....	434.5

## COST OF PROJECTS TO END OF 1939

	County	W.P.A.	Total
Salaries & Industrial Insurance.....	\$ 5,399.25	\$188,207.91	\$193,607.16
Transportation & Supplies .....	9,443.09	500.81	9,943.90
TOTAL.....	\$ 14,842.34	\$188,708.72	\$203,551.06



## PLATS

The town of Seattle was first platted on May 23rd, 1853 by A. A. Denny and C. D. Boren. D. S. Maynard filed his own townsite plat, due to a disagreement with the others as to the base line near the shore; hence there was a jog of half a block where the two sets of streets touched Yesler Way, since overcome by curving the avenues north of that thoroughfare to meet those going south. The area in the Denny-Boren instrument extended from Yesler Way to Spring Street, First to Third Avenues, and included twelve blocks. Maynard's was bounded by Yesler Way, Dearborn Street, Eighth Avenue South and Elliott Bay and consisted of fifty-eight blocks. Following these, the early pioneers filed their individual plats, Boren in 1854, A. A. Denny and W. N. Bell in 1858, Edward Hanford and D. T. Denny in 1869, Thomas Mercer in 1870, etc. Not to be behind Denny, Boren and Maynard, C. C. Terry decided also to plat the town of Alki, consisting of six blocks, which he filed on May 28th, 1853. Recorded the next year, it was subsequently vacated.

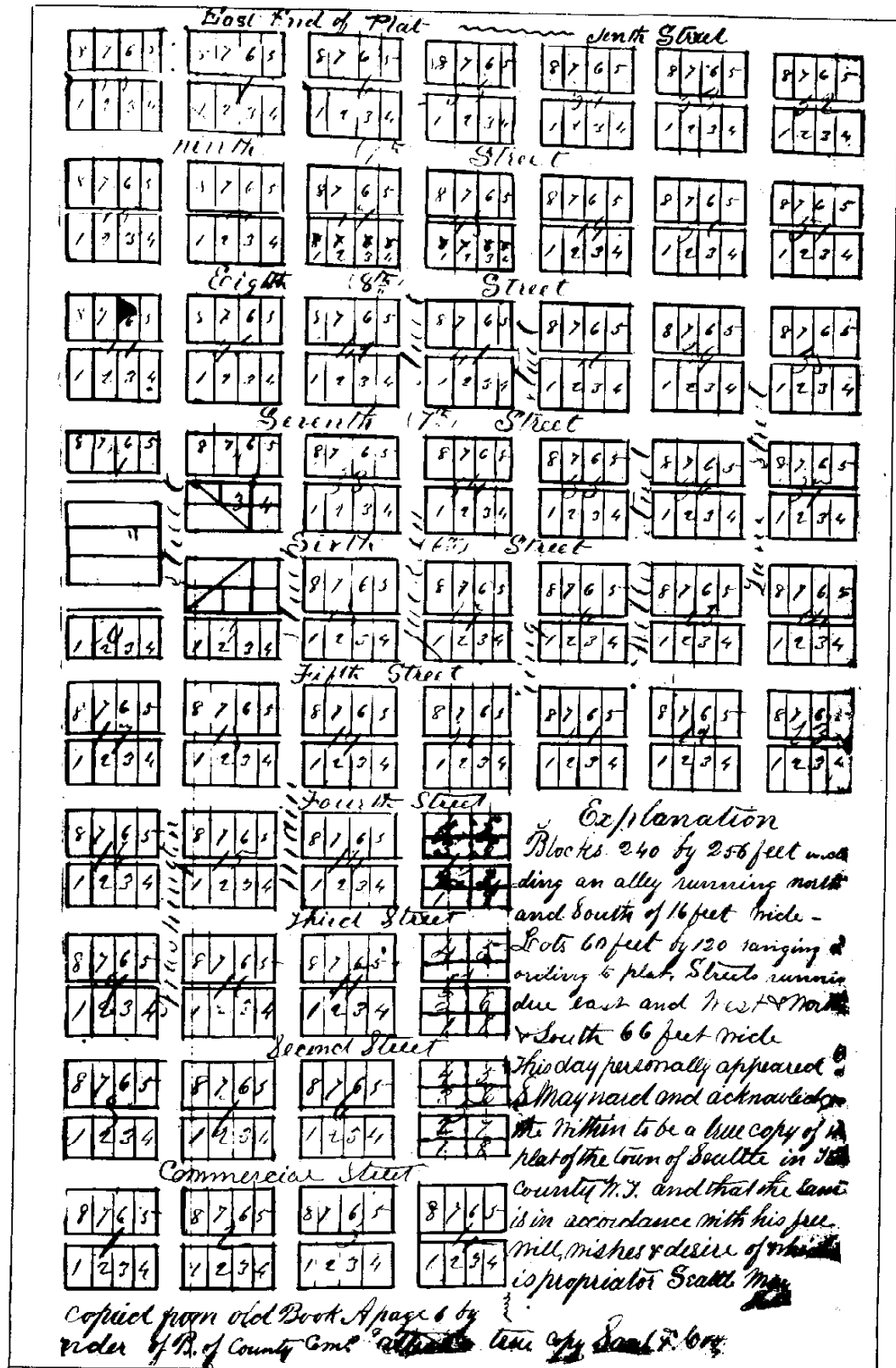
The first legislation on this subject was passed in 1858. It provided that townsite plats or additions thereto had to be recorded before the sale of lots could be made; that land donated for highway or other purposes was to be accepted as being quit-claimed; and that streets and alleys so donated were to be considered as public highways. County commissioners were authorized to vacate lots or dedicated thoroughfares on proper petitions, lots reverting to the former owners, and streets or alleys to adjoining property. Vacation or townsites was also provided for, if they remained unimproved. Under this legislation the first record of the vacation of a plat was that of Clark's Addition to Seattle in 1872. Up to about 1902 the commissioners approved new filings without first referring them to the county surveyor, but gradually the recommendations of that official were first secured. By 1907, even before that could be done, certain requirements were for the first time exacted of real estate operators, the most important of which related to the width of thoroughfares, conformity with the plan of adjacent plats, and with the topography where a regular street arrangement would produce excessive grades.

Thus the county began to exercise greater control over the platting of additions, and when the King County Planning Commission was created their approval became necessary. Legislation in 1937 not only confirmed this, but also authorized the planners to establish rules and regulations, provided for surveys of proposed plats, and required decision to be made within sixty days during which time no sales of land were to be consummated under penalty. Pursuant to this act Resolution No. 6735, December 31, 1937 requires that the county engineer examine and check all tentative plats to see that all regulations are being adhered to before the King County Planning Commission may approve.

Since the first plat was filed in 1853, a total of about 2,950 have been recorded up to date. The growth of Seattle and King County may be traced by the number of additions submitted each year. Space does not permit their detailed mention here, but it will be of interest to note that activity in this field coincided with the general welfare of the community. Lean years saw few plats filed whereas prosperous times witnessed a great increase, the largest being in 1890 when the gold fever caused such a decided growth in this territory, that 308 plats passed through the county offices. For 1939 the total was 25, all approved, of which 19 were recorded for North District No. 3 and six for South District No. 2.

In addition to the usual work of examining and making recommendations on plats submitted to this office during 1939 all plat books were repaired, filed and properly indexed, entailing an expenditure of \$849.40 which, added to the cost of surveys amounting to \$344.09, made a total disbursed from county engineer's funds of \$1,193.49.





SECOND PLAT OF TOWN OF SEATTLE

Filed by D. S. Maynard

## TRAFFIC SURVEYS

Though in 1854 there were very few roads in King County, and very little traffic, the legislature's first act in relation to highway travel was to require road supervisors to erect and maintain directional signs at every junction and crossing. Ever since, this has been an obligation of the county commissioners, and since 1917, such signs were required to be built according to state standard plans.

The first rule of the road, when highways were narrow and the horse provided the motive power for transportation, was the requirement in 1869 that vehicles when meeting must turn to the right. Followed in 1871 prohibiting speed faster than a walk over county bridges, in 1909 making it unlawful to discard glass, tacks, and nails on highways, in 1913 regulating the load of vehicles in proportion to tire width, the year 1915 witnessed the passage of the first complete act relating to the use of the public highways, the rights and remedies of persons thereon, the licensing of motor vehicles and the fees therefor. From this time forward regulations continued to multiply to keep pace with the increased use of public roads by motorized traffic.

All laws relating to motor vehicles culminated in the passage of Chapter 188, Laws of 1937, known as the Washington Highway License Act. This provides rules and regulations governing the ownership and registration of vehicles, the licensing thereof, and the licensing of motor vehicle operators. Laws hitherto passed prescribing rules of the road and relating to the operation of motor vehicles, and the rights of those using highways, have all been consolidated in Chapter 189, Laws of 1937, called the Washington Motor Vehicle Act. It specifies requirements as to vehicle inspection, lighting and equipment; regulates transportation of explosives and inflammables; defines speed limits in city, county and state; determines rules of the road governing behavior of operators and pedestrians; dictates procedure in case of accidents, etc.

It is probably true that the limited speed of horse-drawn equipment presented no appreciable traffic problem or hazard, for it appears that no survey was made until 1916. In that year and the next there was a thorough check of the confused traffic conditions that must have resulted from the use of public highways by both horse-drawn and motor vehicles. As the first mentioned mode of transportation practically disappeared, the need for further traffic surveys ceased for ten years. With the beginning of the prosperous era the number of automobiles so increased as to necessitate another review of conditions in 1927, since when periodic checks have been the rule. The last two, in 1936 and 1939, were under the direction of the state highway department, traffic being counted daily at control stations and once a week at the one-day stations. The data obtained helps not only in making plans to eliminate accidents, but in deciding future road improvements.

In the table of results here given only the total number of vehicles counted is shown as space is lacking to present figures concerning the classification or the average for a 24-hour day. It is also impossible to name the various classifications though it may be said that provision in each survey has been made to include the various modes of transportation that have been increasingly used from year to year. Thus the first check in 1916 took account of motor trucks, motor stages, motorcycles, pleasure cars, horses and horse-drawn equipment. The latest survey eliminates the last mentioned item, adds trailers to pleasure cars and trucks, and includes tractor trucks and miscellaneous heavy vehicles, such as graders, etc.

Year	Traffic Stations	Vehicles Counted	Year	Traffic Stations	Vehicles Counted
1916	1	30,301	1930	5	6,405
1917	11	38,660	1931	26	46,714
1927	4	10,757	1934	24	63,055
1928	24	40,555	1935	85	138,285
1929	34	61,458	1936	219	281,481
			1939	51	109,537

Eliminating traffic hazards has been the object of the appointment of Dr. D. M. Reid as Traffic Safety Inspector, by County Commissioner Tom Smith. Every effort is being made to study conditions scientifically, and to popularize the program it is expected that in 1940 there will be weekly radio broadcasts featuring the Safety Bandwagon Radio Traffic Safety Quiz, with all King County schools invited to participate.

### BLUE PRINT PLANT

Of the 1939 production of 62,000 square feet, approximately 32,500 were for outside offices and agencies, of which the Aerial Survey Project received about 23,500. For most of this work no charge has been made.

#### Cost of Operations

Materials and Supplies.....	\$ 157.84
Repairs and Gas.....	11.77
Labor (part time).....	726.56
10 per cent Depreciation on Machinery.....	185.00
Total.....	\$1,081.17

#### Cost Per Square Foot

Based on the average charge made by commercial blue print companies, the county has since the installation of its own plant been able to cut the cost as the following table will show:

Year	Production Square Feet	Commercial Cost-Average	County Cost	Saving per Square Foot
1935	26,000	3.35 cts.	1.75 cts.	1.60 cts.
1936	108,000	3.00	1.38	1.62
1937	46,000	3.05	2.75	.30
1938	78,000	3.00	1.50	1.50
1939	62,000	4.00	1.74	2.26

### RECORD VAULT

The first record in connection with highways was the road book, which in accordance with an act passed in 1854 was to be kept by the county auditor, and into which were to be entered the viewers' report, surveyor's return and the plat of the road, etc. It was also provided that no road was to be opened unless this information was duly written in the road book, and that no new road would be held legal unless so entered. In 1890 the county auditor was required by legislation to keep a record of all proceedings relating to roads, which continued to be the practice until the office of county surveyor was regularly established, since which time complete files have been maintained in that department.

The procedure is for all papers to pass through the record clerk in the drafting room, who keeps all the information up to date for ready reference. He lists all surveys, and has charge of the accounting details of all activities in the drafting room, such as material, labor and transportation costs on all projects. Documents retained in the vault include:

- Maps, Plans, Profiles, Cross Sections and Grade Sheets concerning roads.
- Road Establishment Papers and ten volumes of old County Road Records.
- Inspectors' and Construction Notes; County, C. W. A. Government and Topographical Field Books.
- Survey Traverses, Estimates and Quantities.
- Map and Detail of Bridges, Docks and Wharves.
- Section, Township, Road, Property and Industrial Site Maps.
- Railroad Right-of-Way and Grade Crossing Maps.
- Flood Control and Drainage Districts; and King County Airport Maps.
- Government and C. W. A. Contour Maps, and four books of State Highway Maps.
- Original Tracings of Plats.

## COUNTER

To serve the public, a clerk is on continuous duty at the counter, where there are kept a complete set of maps and other books of record, many being duplicates of those in the vault. Information is furnished concerning house numbers, proposed or existing roads, and property boundaries. Requests for maps and blueprints are also attended to. Complainants are received by the counter clerk and referred to the member of the staff concerned for necessary adjustment of the trouble. In general the counter clerk is the contact between the public and the county road engineer's office and in that capacity efficient service has been rendered the year round.

## COURT WORK

Under the direct supervision of the county engineer, this branch of the office is engaged in supplying the prosecuting attorney with the proper technical information and data in the handling of suits involving damage to property, condemnation of land, personal injury and other civil actions. The work involves the preparation of plans, surveys and other engineering data, and the keeping of adequate files for the disposition of claims. During the year this office participated in the following civil cases:

Plaintiff (Defendant King County)	Nature	Amount Claimed	Disposition
Willoughby Dorgan.....	Personal injury.....	\$ 2,500.00	Denied
Water District No. 25.....	Property damage.....	100.00	\$25.00
Ettinger.....	Personal injury.....	38,000.00	\$3,250.00
N. P. R. R. ....	Slide damage.....	2,100.00	Pending
Carmichael Quarry .....	Injunction asked.....	.....	Denied
Badminton.....	Personal injury.....	2,550.00	Denied
Noel .....	Personal injury.....	10,000.00	Denied
Benson.....	Personal injury.....	53,000.00	Pending
Fritch.....	Personal injury.....	2,500.00	\$482.00 appealed
Rian Johansen.....	Personal injury.....	65,000.00	Denied n.o.v.
Dawson.....	Condemnation.....	3,000.00	Denied
Deatherage.....	R/W claim.....	500.00	\$125.00
Reed .....	Personal injury.....	1,250.00	Denied
Mullen.....	Personal injury.....	13,000.00	Pending
Ballard School District.....	Personal injury.....	5,000.00	Denied
School District No. 1 .....	Personal injury.....	5,000.00	Pending
H. O. L. C.....	Flood damage.....	1,000.00	Denied
C. P. Meyers.....	Flood damage.....	4,000.00	Denied

In addition to the civil claims the following work was performed, during the year just passed:

- 87 plans drawn for presentation in criminal cases.
- 24 plans prepared for coroner's inquests.
- 35 plans presented in police cases.
- 94 sketches and maps were prepared covering miscellaneous claims including maps for right-of-way agents to assist them in securing easements, deeds, releases, etc.